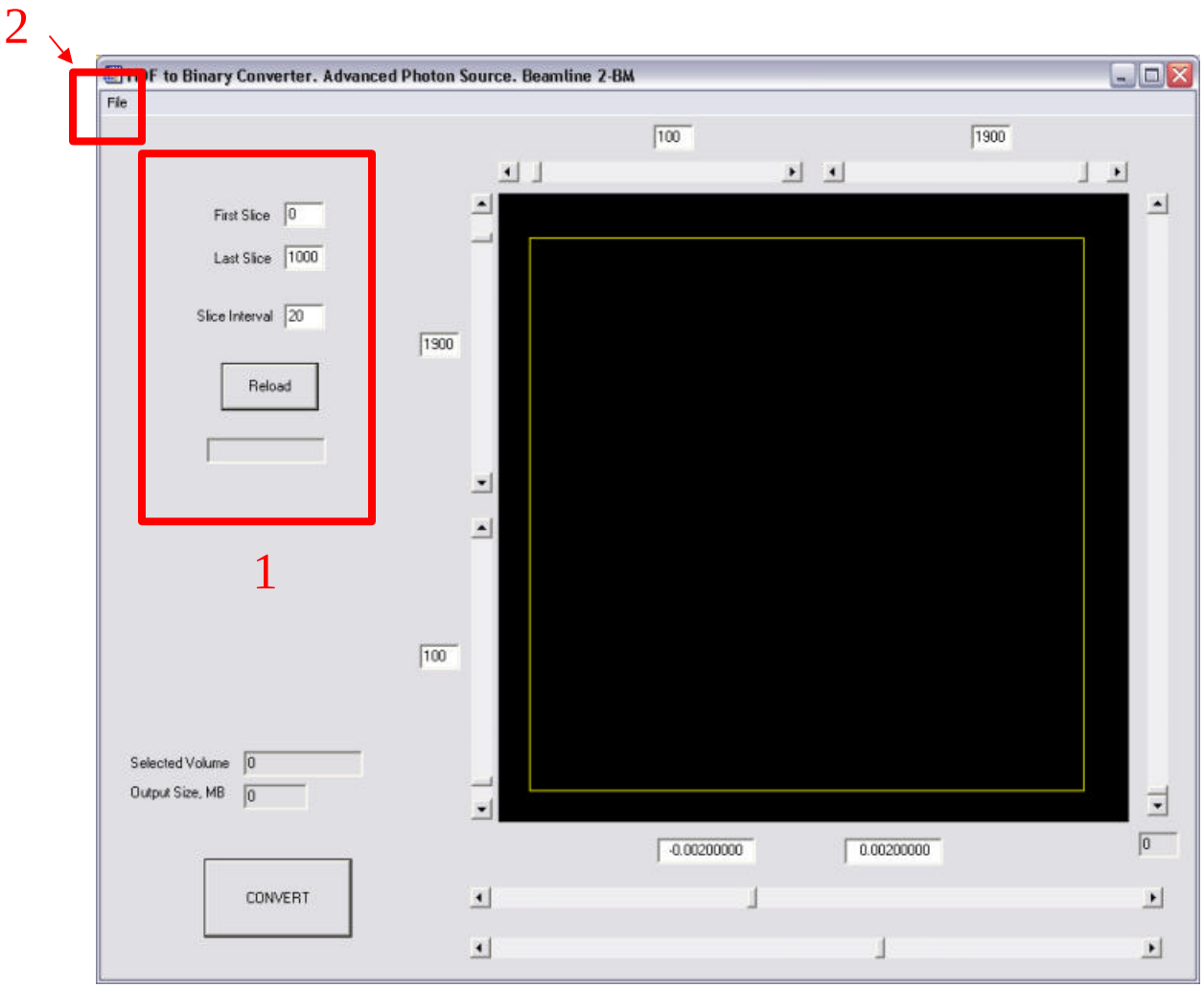
HDF to Binary Converter, ver 1.0

The program converts a set of HDF files containing slices of reconstructed data into a raw binary single file that can be opened in a variety of 3D rendering programs such as Amira, etc.

Before the conversion, it allows to crop the dataset and adjust the brightness window in order to minimize the amount of data and to focus on specific features of interest.

In order to run the program one needs to install free IDL Virtual Machine (IDL VM) which can be downloaded from http://www.ittvis.com/idlvm/ . There are different versions of IDL Virtual Machine for different platforms.

Here is how the main window of the program looks like (the sequence describes the typical workflow):



First, you put in information about the range of slices, from first to last, that will be converted, in the area emphasized with red color.

IMPORTANT! DON'T FORGET TO PRESS ENTER AFTER YOU PUT VALUE IN EACH CELL!

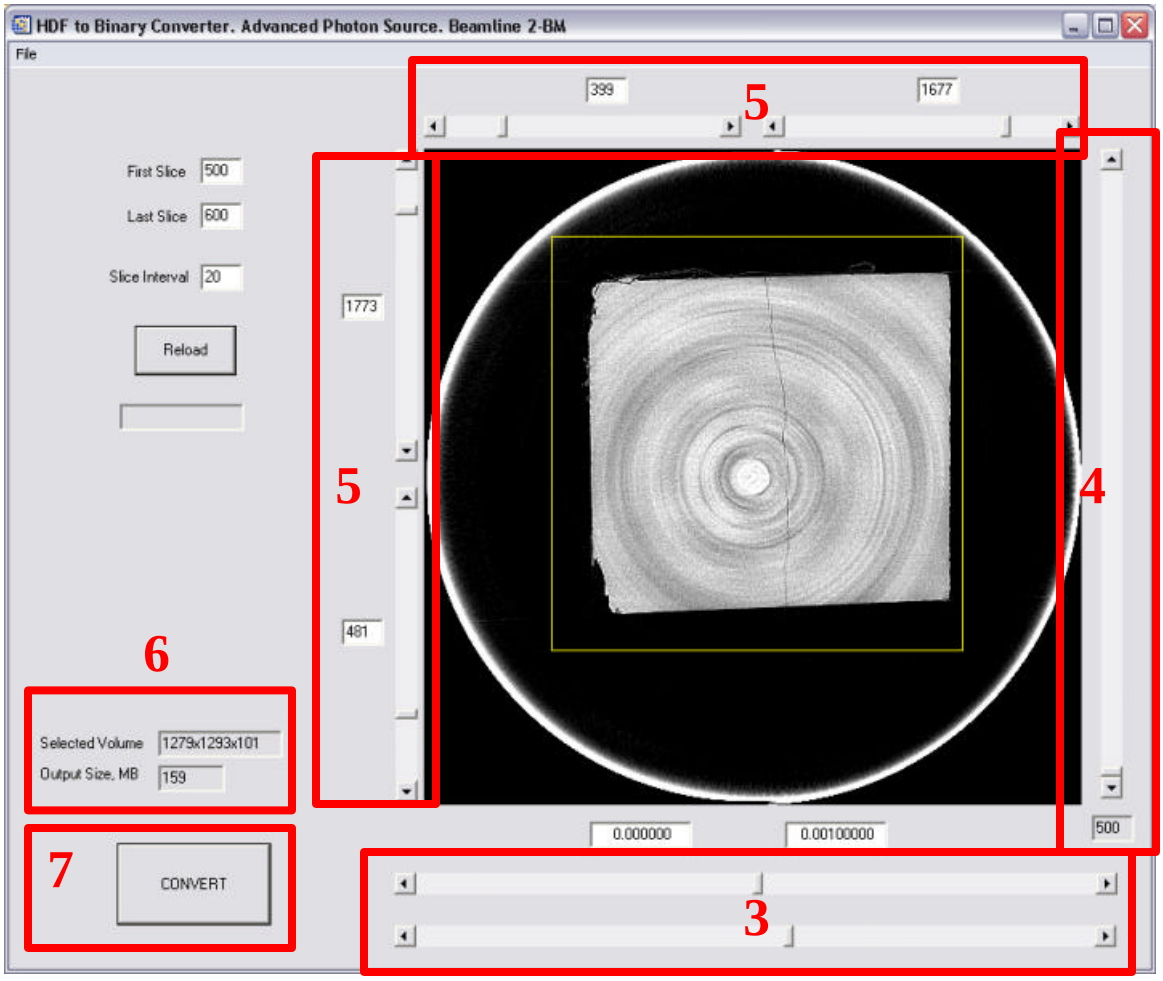
Slice numbers correspond to the numbers of the HDF files, so for file *sample_name_XXXXX.HDF*, *XXXXX* is a slice number.

SLICE INTERVAL refers only to display window to save time on preliminary display of data, actual conversion is performed on each slice between first and last slices entered. For example if the first slice is 500 and last file is 900, with slice interval of 20, slices 500, 520, 540, …, 900 will be shown in the display window.

2) To read the data, select File -> Open in the menu on top and select the folder containing HDF files, usually it's named *..\sample_name\reconstructed.*

There should be no other files in this folder, except HDF's with reconstructed slices.

After the data is loaded, the program remembers its location, so if you want to change first or/and last slices or slice interval you don't have to open the data again, just push RELOAD button when you changed the numbers in the corresponding fields



Control 3 allows you to play with minimum and maximum intensity values. You can do it with the sliders or type in the values in the corresponding cells. The output data will be scaled accordingly

You can scroll through the slices with control 4. The window at the bottom of the slider shows current slice number.

Controls 5 allow to move the left, right, top and left crop borders. Again you can put values in manually or use sliders. Output data will be cropped accordingly.

Selected volume, in voxels and output file size for current settings are shown in area 6.

When you are satisfied with the settings, push CONVERT button (7) , it will ask you for the folder that you want to save data in, file name containing information about sample name and final array size is preselected, but you can change the file name if you want.

You can repeat the operation with different settings with the same dataset or load a new dataset after that.

Konstantin Ignatyev
ignatyev@aps.anl.gov